Letter to the Editor

Response to uncertain effect of hydroxychloroquine and azithromycin on SARS-CoV-2 viral load. ☆

We agree with colleagues that the method used in our paper [1] is not optimal given the longitudinal study design with each patient being repeatedly measured on multiple occasions. The mixed-effects logistic regression model can be used to model the change within each patient, and hence give an unbiased estimate of treatment effect. For that reason, we reanalyzed our data including all 42 patients initially enrolled in our survey, following the intention-to-treat concept. Using this model, we estimated the correlation between positive results by real-time PCR, taking into account the interaction effects of hydroxychloroquine, azithromycin, age, gender and NEWS severity score [2] at inclusion.

Table 1 shows the results of the mixed-effects logistic regression model. Hydroxychloroquine and azithromycin were found to be significantly associated with a decrease in positive PCR results with OR = 0.24, 95%CI = [0.12 – 0.49], p = 7.65.10-5 and OR = 0.38, 95%CI [0.17 – 0.81], p = 0.0122, respectively.

Table 1
Effects hydroxychloroquine (HCQ) and azithromycin on the positive PCR tests: result of a mixed-effects logistic regression model

Parameters	OR	95%CI	p-value
Sexe = male	0.75	0.42 – 1.33	0.32
Age	1.01	0.99 – 1.03	0.11
NEWS score at admission	1.14	0.98 – 1.32	0.10
Hydroxychloroquine treatment	0.24	0.12 – 0.49	$7.65.10^{-5}$
Azithromycin treatment	0.38	0.17 – 0.81	0.0122

In conclusion, despite the low number of patients included, the reintegration of excluded patients in our analysis, and using the mixed-effects logistic regression model, the results led to confirm the effectiveness of the hydroxychloroquine and azithromycin treatment on viral clearance.

Competing interest

The authors declare no competing interests.

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References

[1] Nguyen TV. Uncertain effects of hydroxychloroquine and azithromycin on SARS–Cov-2 viral load. Int J Antimicrob Agents 2021:106169.
[2] Liao X, Wang B, Kang Y. Novel coronavirus infection during the 2019-2020 epidemic: preparing intensive care units-the experience in Sichuan Province, China. Intensive Care Med 2020;46:357–60.

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